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Remarks as Prepared for
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"Revolutionizing Relationship with Industry"

Good afternoon everyone. Thank you Anita for that kind introduction. And thank you all for the invitation to join you here today for your 11th Annual conference. I accepted the invitation to speak today because I believe that we have two important traits in common:

First, we seize opportunities. Your theme of "building relationships, creating opportunities" is exactly why I am here. Our future rests on a successful partnership with you—industry's innovators—and the important innovations we create together.

Second, we are driving innovation. We know that important discoveries are made not only through hard work, but also by a willingness to push the envelope. With our shared traits in mind, I am here to ask you for your help. To fully realize NGA's vision we need your help seizing opportunity now.

Many of you may not know much about NGA and geospatial intelligence or GEOINT. So let me briefly explain. Geospatial intelligence – GEOINT – is an intelligence discipline where we have merged geospatial data – mapping – with imagery intelligence. Initially, our predecessors drew maps for the Army and charts for the Navy and Air Force. We still make those maps and charts, but we do it with sophisticated digital processes—and very talented geospatial analysts. Next, we moved to analyzing aerial photographs. Then, about 50 years ago, satellites began taking those images—grainy black and whites like those which were combined with aerial photography, revealed the Soviet missiles in Cuba.

Today, we still collect and analyze images. They are highly detailed images that reflect the entire light spectrum from infrared to radar to multiple bands of light. However, a picture, even a highly detailed image, is only a point in time; it shows the past. At its core, imagery analysis is about watching what we know and searching for what we think should be in a given location.

But studying the past, looking at what we know, is not enough in today's world. So we are developing a new intelligence methodology that allows us to anticipate and predict. Called Activity Based Intelligence or ABI, it makes a huge shift from looking at what we

know to looking for what we don't know. ABI integrates "Big Data" from all types of intelligence to discover patterns of activity and networks that either were naturally hidden in the data or that our adversaries are trying to hide. For example, with ABI, we can create automated "watch boxes" that constantly scan billions of bytes of data. These automated boxes can warn us when they detect changes or spot anomalies, and as patterns emerge, enable our analysts to predict what may happen next. We must, however, increase the pace of change.

This is but one example of the transformation of our business that is underway at NGA. Yet, as much as we are doing, we must accelerate our pace of change. Why? For three key reasons:

First, we are the only intelligence agency with competitors who also are our partners: Google, Digital Globe, ESRI, foreign commercial satellite companies—all produce high quality imagery and offer map making and analytic services. We encourage our competitor-partners to do what they do best while we focus on what we do best—the integration of multiple sources of intelligence with open source and classified information that enable decision advantage for policy makers, the military, first responders, and the IC.

Second, we must change more rapidly than ever before because we face a future filled with uncertainty. We face the most challenging environment of my 35 years in the business-- both at home and abroad.

Third, these external threats are complicated by technological and budget challenges. The "Great Content Shift" to Big Data, mobile devices, social media, and cloud computing creates tremendous challenges – and also tremendous opportunities. And obviously, we face more—and more dramatic—budget cuts.

At NGA, we have been turning those budget cuts into opportunities.
Given this rapidly changing environment, we are embracing change to realize our vision of "Putting the Power of GEOINT in the Hands of the User."

We are pursuing two key goals:

- To provide online, on-demand access to our GEOINT knowledge and
- And to create new value by broadening and deepening analytic expertise.

And we are keeping two promises we made to the Community:

- To fundamentally change the user's experience and
- To unleash the unique power of GEOINT with deeper spatial, visual, and contextual analysis.

Now, how are we going to do all of this and what opportunities does this offer your company or the companies that you invest in? We are creating these opportunities for you with a new "agile enterprise" model. That model should make it easier for you to participate in our engineering, development, contracting, and acquisition processes.

And in turn, should make it much faster and more efficient for us to receive the capabilities we need from you.

We follow these principles: Maximize transparency to achieve speed and insight, strengthen private sector partnerships and leverage private sector contributions, identify NGA specific investment areas, drive industry's investments to develop innovative, operational GEOINT capabilities, and expand our contractor base.

For example, we just launched the GEOINT Solutions Marketplace, or GSM. It is a virtual repository of all of our GEOINT tools, techniques, partnerships, and requirements. GSM marks a major change in the traditional contracting model. You're familiar with that: We issued a Request for Proposal, you develop the capability and deliver it, and then we find out if it works or not. It can take months or years, and sometimes we find we did not receive what we thought we asked for. Or, if we did, by the time we received it, it was obsolete. In the new model, we want to use your capabilities "as is." Our industry partners have access to the marketplace to both offer their capabilities and search for opportunities to match their products with our needs. GSM can "host" tools, apps, and capabilities so users can try them. We might host several tools for a particular need and see which one our users "like" the best. We want GSM to attract small businesses and new vendors and encourage partnerships.

Next, we have set up the NGA Operational Workspace or NOW. NOW is a mock-up of the entire GEOINT community hosted in an NGA data center. Developers can develop tools, apps, and capabilities in this workspace. NGA reviewers will verify that a new tool meets our need, and users can test it. With positive results, we can decide how to scale the new tool across the Agency.

The NOW approach is sharply reducing development time from months to weeks—think of it as a "Beta test environment" using our ISPs. A third new initiative, the NGA Developer Depot, is an online set of resources that helps software developers write software for our Integrated Analytic Environment – the IAE. It serves as a single web portal that links you to all developer resources. It also acts as a collaboration portal for the GEOINT developer community.

External software developers, in-house developers, engineering and technical innovators, new systems developers, and more will be able to access the Depot. It is now at Initial Operating Capability and will be at Full Operating Capability on all three security domains by the middle of 2014. The Depot encourages software developers to leverage NGA's information technology resources to streamline your development cycle. We are giving you free access to our resources so you can develop better software, quicker and at lower cost.

GSM, NOW, and the Depot are just three of an increasing number of examples that are transforming our acquisition, development, and contracting processes.

Our shift to this agile enterprise approach is already producing meaningful results. For example, our GEOINT Visualization Service – GVS – adopted the sprint development model and deploys new capabilities on a 30-45 day cycle rather than months. The Geospatial-Intelligence Information Management Service – GIMS – adds new or enhances current widgets and apps for the IAE with new "drops" every 60 days. The GIMS's enhancements are driven by an embedded team of developers that works closely with users to ensure they understand their needs.

These developments are saving our analysts hours that they can devote to deeper, more integrated, more anticipatory analysis. Let me spend a moment describing how industry can work with NGA. Given the rapid pace of change, how do you get your foot in the door? There is the classic way—engage with us to identify a gap and offer a solution that fills it. And I don't need to say: Your solution should be faster, cheaper, more efficient, and more effective than ones we now use. Or you can reach out to our established offices - the Industry Interaction Program, InnoVision's – NGA's R&D Directorate - Industry Outreach Office, and the Small Business Program Office. Or you can start participating in our new virtual methods, such as GSM, NOW, and the Developer Depot.

Of course, you do not want to stick your foot in the door and find out your capabilities and our needs do not match. Here are a couple of areas where we can use your help and expertise:

First, we are moving to the gov cloud and commercial cloud infrastructure. Help us with your cloud migration experiences, methods for technically sound product migrations, and lessons learned from using a cloud architecture.

Second, we work closely with the GEOINT Community to set open standards, so help us leverage open source solutions. Your Return on Investment (ROI) in the future may extend beyond selling more hardware and more software to maximizing opportunities from new business models and open source usage.

Third, help us extend GEOINT's role and enhance its impact on, and meaning for, the world – through our federal, state, local, and international partnerships.

The common theme is that in an era of declining budgets, we must come together as a unified community. We must take advantage of each organization's strengths; reduce our costs; and share our data, analysis, knowledge, tools, and technologies.The goal is for every partner to maximize its impact on both its own and our collective security mission.

Fourth, help us turn "Big Data" into "Big Value." Help us figure out what it takes to analyze, manipulate, and visualize Big Data and turn it into clear, actionable intelligence for decision makers. Fifth, we are driving multi-INT integration with our Integrated Analytic Environment. This framework allows analysts to collaborate with other analysts.

We have empowered our analysts. What used to take hours or days for an analyst to physically review can be done in minutes. We can do anticipatory and predictive analysis to discover the critical "unknown-unknowns" that enable decision makers to act first.

We have standardized our GEOINT content. We have created an online repository for our data called the Map of the World. We have adopted a "one-object one-time" model. Quite simply, we tag the data and we tag the analyst. That is, all the data, knowledge and intelligence about any object—for example, an airfield—is tagged to that object. And every analyst in the community with a need to access that object—the airfield—has access to all of that information about that object.

GEOINT is a catalyst for this "one object one time" model because everything and everyone have to be somewhere. That is, every object has a latitude and longitude and can be georeferenced and tracked.

Furthermore, information about each object is constantly updated by every intelligence discipline. And that new information becomes a basis for new knowledge and a key enabler for multi-intelligence integration. With this model, we are making a major shift from providing static products to creating dynamic, growing, reusable, tailored, and constantly maturing intelligence. It is created at the point when and where decision makers, planners, warfighters, and first responders need it.

To accomplish all this, we need your expertise in organizing information into these objects. We must understand the interdependencies and relationships between objects, the relationship space.

Ultimately, our relationship with you means that we must work as an integrated team. You will have opportunities to create and develop unique tools, applications, processes, and capabilities and earn the rewards. We are open to examining all roles, functions, services, and products for our industry partners that are not inherently governmental. In short, we need your best innovations, your best ideas to create a new era in innovation, ingenuity, and teamwork that will drive the transformation of GEOINT forward.

I would like to close with one additional challenge—or opportunity—frankly, a critical one for our country. We must encourage more students to pursue degrees in science, technology, engineering, and mathematics—the STEM disciplines. NGA needs a new generation of qualified Image Scientists, Geospatial Data Stewards, Geodetic Scientists, Research Analysts, Systems Engineers, Photogrammetrists, Enterprise Architects, Web Engineers, Information Systems Security Specialists, to name a few. I ask you increase your support for STEM programs in schools and colleges across the nation.

I ask you to invest in a diverse, ever more technologically savvy workforce. With them, we can establish and sustain this exciting, new era of GEOINT. With them, this new era

will magnify the power of GEOINT as the catalyst that ensures the defense of the Nation. I look forward to being your partner in this endeavor. Thank you. I would be happy to answer your questions.

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